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(54) **PHYSIOLOGICAL FEATURE EXTRACTION AND FUSION TO ASSIST IN THE DIAGNOSIS OF POST-TRAUMATIC STRESS DISORDER**

(71) Applicant: **The Charles Stark Draper Laboratory, Inc.**, Cambridge, MA (US)

(72) Inventor: **Andrea K. Webb**, Medford, MA (US)

(73) Assignee: **The Charles Stark Draper Laboratory, Inc.**, Cambridge, MA (US)

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(51) **Int. Cl.**
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| *A61B 5/053* | (2006.01) |
| *A61B 5/00* | (2006.01) |

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CPC ............. *A61B 5/165* (2013.01); *A61B 5/02405* (2013.01); *A61B 5/0531* (2013.01); *A61B 5/4884* (2013.01)

(58) **Field of Classification Search**
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See application file for complete search history.

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*Primary Examiner* — Catherine Voorhees
(74) *Attorney, Agent, or Firm* — Edward A. Gordon; Paul S. Hunter; Foley & Lardner LLP

(57) **ABSTRACT**

Post-traumatic stress disorder (PTSD), and other anxiety disorders, are diagnosed via clinical interviews in which subjective self-reports of traumatic events and associated experiences are discussed with a mental health professional. The system and methods described herein classify and diagnose patients as suffering from anxiety disorders by measuring objective physiological measures, such as inter-heartbeat interval and skin conductance. The system measures various physiological measures and then extracts features from the physiological measures. A diagnosis is then made by classifying the extracted features using one of a neural network, Bayesian network, or a support vector machine.

**18 Claims, 3 Drawing Sheets**